

What is claimed is:

1. A cocoa polyphenol-containing composition useful for modulating inflammatory pathways in a mammal, which composition comprises a cocoa ingredient containing the cocoa polyphenols.
2. A cocoa polyphenol-containing composition useful for maintaining vascular health, which
5 composition comprises a cocoa ingredient containing the cocoa polyphenols.
3. A cocoa polyphenol-containing composition useful as an antibacterial treatment, which composition comprises a cocoa ingredient containing the cocoa polyphenols. .
4. The composition of Claim 1, 2, or 3 wherein the cocoa polyphenols are natural or synthetic cocoa procyanidins.
- 10 5. The composition of Claim 4, wherein the natural cocoa procyanidins are present in cocoa extract, chocolate liquor, partially defatted cocoa solids fully defatted cocoa solids, cocoa nibs, cocoa nib fractions, or mixtures thereof.
6. The composition of Claim 5, wherein the cocoa procyanidins are monomers and/or oligomers of epicatechin and catechin.
- 15 7. The composition of Claim 6, wherein the oligomers are dimers through octadecamers.
8. The composition of Claim 5, wherein the cocoa extract is obtained from cocoa beans, cocoa nibs, cocoa nib fractions chocolate liquor, partially defatted cocoa solids, and/or fully defatted cocoa solids by extraction with a solvent which dissolves the cocoa polyphenols.
- 20 9. The composition of Claim 8, wherein the solvent is water, methanol, ethanol, acetone, ethyl acetate, or mixtures thereof.
10. The composition of Claim 9, wherein the extract is purified.
11. The composition of Claim 10, wherein the extract is purified by gel permeation chromatography.
12. The composition of Claim 11, wherein the extract is further purified by liquid chromatography.
- 25 13. The composition of Claim 12, wherein, during the liquid chromatography, the extract is fractionated into monomeric and oligomeric fractions containing at least 50% by weight of the monomers or the oligomers.
14. The composition of Claim 8, wherein the cocoa extract further contains monomeric and/or oligomeric fractions containing at least 50% by weight of the monomers or the oligomers.
- 30 15. The composition of Claim 1, 2, or 3, wherein the composition is a food, a dietary supplement, or a pharmaceutical containing a cocoa ingredient prepared from cocoa beans or containing one or more synthetic cocoa procyanidins.
16. The composition of Claim 15, wherein the food or the dietary supplement is a beverage.
17. The composition of Claim 15, wherein the pharmaceutical, further comprises a carrier, a diluent, or an excipient.
- 35 18. A method for modulating a mammalian inflammatory pathway by inhibiting cyclooxygenase activity by administering the composition of Claim 1 or Claim 2.

19. A method of modulating the production of eicosanoids and endothelin by administering the composition of Claim 1.
20. A method of preventing diseases caused by chronic inflammation by administering the composition of Claim 1.
- 5 21. A method of preventing vascular disease by administering the composition of Claim 2.
22. A method of enhancing nitric oxide synthesis by administering the composition of Claim 2.
23. A method of enhancing nitric oxide synthesis by macrophages by administering the composition of Claim 3.
24. A method of inhibiting lipoxigenase activity by administering the composition of Claim 2.
- 10 25. A method of reducing vasoconstriction by administering the composition of Claim 2.
26. A method of reducing platelet aggregation by administering the composition of Claim 2.
27. A method of inhibiting monocyte adhesion by administering the composition of Claim 2.
28. A method of inhibiting vascular smooth muscle proliferation associated with vascular disease by administering the composition of Claim 2.
- 15 29. A method of reducing thrombosis by administering the composition of Claim 2.
30. A method of reducing blood pressure by administering the composition of Claim 2.
31. A method of modulating oxidative stress to prevent associated inflammatory disorders and vascular diseases by administering the composition of Claim 2.
- 20 32. The method of Claim 31, wherein the modulation of oxidative stress is affected by preventing low density lipoprotein oxidation.
33. A product comprising the cocoa polyphenol-containing composition of Claims 1, 2, or 3 in a form suitable for oral delivery.